

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A semiconductor integrated circuit having over one semiconductor substrate a nonvolatile memory and a logic circuit which uses information stored in said nonvolatile memory to perform logical operation,

wherein said nonvolatile memory comprises bit lines, word lines, and memory cells,

wherein said memory cell comprises a MOS transistor whose gate electrode is connected with a word line, and information storage is carried out according to whether one source/drain electrode of said MOS transistor is connected with a current path or floated, and

wherein a control circuit is provided which produces a potential difference between the source/drain electrodes of said MOS transistor during a predetermined period in the operation of accessing said memory cell, and makes zero the potential difference between the source/drain electrodes of said MOS transistor during the other periods than said predetermined period.

2. (Original) The semiconductor integrated circuit according to Claim 1, wherein the time at which a potential difference is produced between the source/drain electrodes of said MOS transistor is matched with or behind the time at which a word line is selected.

3. (Original) The semiconductor integrated circuit according to Claim 1, wherein said nonvolatile memory and logic circuit use common supply voltage as their operating power supply voltage.

4. (Original) The semiconductor integrated circuit according to Claim 1, wherein whether a MOS transistor is connected with said current path or floated is determined according to whether the one source/drain electrode thereof on the opposite side to the bit line is connected with a predetermined signal line or not.

5. (Original) The semiconductor integrated circuit according to Claim 1 or Claim 4,

wherein the MOS transistors respectively included in a plurality of memory cells disposed along said bit lines are formed in a common well, and are electrically separated from each other by a dummy MOS transistor whose gate electrode is supplied with off potential.

6. (Original) The semiconductor integrated circuit according to Claim 4, wherein one memory cell has two MOS transistors, and the other source/drain electrodes of the two MOS transistors are connected with separate bit lines which constitute complementary bit lines and the gate electrodes of the two MOS transistors are connected with a common word line.

7. (Original) The semiconductor integrated circuit according to Claim 5, wherein one memory cell has two MOS transistors, and the other source/drain electrodes of the two MOS transistors are connected with separate bit lines which constitute complementary bit lines and the gate electrodes of the two MOS transistors are connected with a common word line.

8. (Original) The semiconductor integrated circuit according to Claim 6, further comprising an amplifier which amplifies the potential difference between said complementary bit lines.

9. (Original) The semiconductor integrated circuit according to Claim 7, further comprising an amplifier which amplifies the potential difference between said complementary bit lines.

10. (Original) A semiconductor integrated circuit having over one semiconductor substrate a nonvolatile memory and a logic circuit which uses information stored in said nonvolatile memory to perform logical operation,

wherein said nonvolatile memory comprises memory cells, word lines, complementary bit lines, and differential amplifiers connected with said complementary bit lines, and

wherein said memory cell comprises a pair of MOS transistors whose gate electrodes are connected with the same word line, one source/drain electrodes of the MOS transistors are separately connected with a corresponding bit line of the complementary bit lines, the other source/drain electrode of one MOS transistor is

connected with a voltage signal line supplied with predetermined voltage, and the other source/drain electrode of the other MOS transistor is floated.

11. (Original) The semiconductor integrated circuit according to Claim 10, wherein said nonvolatile memory and logic circuit use common supply voltage as their operating power supply voltage.

12. (Original) A semiconductor integrated circuit having over one semiconductor substrate a nonvolatile memory and a logic circuit which uses information stored in said nonvolatile memory to perform logical operation,

wherein said nonvolatile memory comprises memory cells, word lines, complementary bit lines, and differential amplifiers connected with said complementary bit lines,

wherein said memory cell comprises a pair of MOS transistors whose gate electrodes are connected with the same word line; the source/drain electrodes of one MOS transistor are connected with a bit line and a voltage signal line supplied with predetermined voltage, and the source/drain electrodes of the other MOS transistor are floated with respect to a bit line or said voltage signal line, and

wherein during a predetermined period in the operation of accessing said memory cell, voltage is applied to said voltage signal line which voltage produces a potential difference between the voltage signal line and said bit line, and during the other periods than said predetermined period, voltage is applied which makes zero the potential difference between the voltage signal line and said bit line.

13. (Original) The semiconductor integrated circuit according to Claim 12, wherein said nonvolatile memory and logic circuit use common supply voltage as their operating power supply voltage.

14. (Original) The semiconductor integrated circuit according to Claim 12, wherein during the other periods than said predetermined period in accessing operation, said voltage signal lines and complementary bit lines are brought to supply voltage, and during said predetermined period, said voltage signal lines are discharged to the ground voltage of the circuit.

15. (Original) The semiconductor integrated circuit according to Claim 14, wherein the time at which said voltage signal lines are discharged to the ground voltage of the circuit during said predetermined period is matched with or behind the time at which a memory cell is selected by word line.

16. – 31. (Canceled)